

AMENDMENTS TO THE DRAWINGS

Attached are three replacement drawing sheets showing the changes made to Figs. 1-3 for review and approval by the Examiner.

Attachments: 3 Replacement Sheets

REMARKS

I. Status of the Claims and the Rejections

Applicants respectfully submit that the alleged deficiencies in the second Notice of Non-Compliant Amendment dated March 16, 2011 (the "Notice") are incorrect. The Notice states that the drawings submitted on December 22, 2010 were not properly identified by the term "Replacement Sheet" in the margins. However, applicants did submit replacement drawings with that heading on December 22, 2010 and have confirmed this in PAIR. Thus, the Notice is incorrect. Nonetheless, applicants now resubmit these drawings for entry by the Examiner. Additionally, the Notice states that the amendments to the claims are not readily readable because strike-through was allegedly used on deletions of fewer than five characters. Applicants respectfully disagree, but have further formatted the claim amendments in an attempt to eliminate any short words deleted at the end of a line of text. Applicants respectfully request that the Response and Amendment now be entered without any further delay.

The drawings were objected to for alleged informalities, including poor quality, illegible reference numbers, and missing elements from the claims. Applicants have amended the drawings to improve their overall quality and correct errors with the duplicate listing of reference number 30 for two different elements (the localized reduction in Figure 3 is now 29 instead of 30). Applicants also respectfully submit that the electronic control unit and associated reference number 26 were in fact shown in the original drawing, at Figure 1. The temperature sensor system has been removed from the claims. In view of each of these amendments, applicants respectfully submit that the objections to the drawings are overcome and should be withdrawn.

The Abstract was also objected to for the use of legal phraseology. Applicants have amended the Abstract to remove such phraseology. Applicants have also amended the

specification to be consistent with the amended drawings. Applicants therefore request that the objections to the specification/Abstract be withdrawn.

Claims 6-11 were rejected for alleged indefiniteness under 35 U.S.C. § 112, second paragraph. More particularly, claims 6 and 7 were rejected for alleged lack of proper antecedent basis as to certain elements, including the cabin zone. Applicants have amended claims 6-11 to provide proper antecedent basis for each element recited. Applicants respectfully request that the Section 112, second paragraph rejections of claims 6-11 be withdrawn.

Substantively, claims 6-11 were rejected for alleged lack of novelty under 35 U.S.C. § 102 based on Fischer U.S. Patent No. 5,479,983 ("Fischer"). Applicants respectfully traverse these rejections. However, applicants have amended independent claim 6 to further clarify the subject matter regarded as patentable. Applicants have also amended claims 7-11, canceled non-elected claims 1-5, and added new claim 12 in this response. In view of these amendments and the following remarks, applicants respectfully request reconsideration and allowance.

II. Claims 6-11 are Novel

A. The Claims

Independent claim 6 recites a passenger aircraft including a cabin, a plurality of temperature sensors, and an electronic control unit. The cabin is subdivided into a plurality of cabin zones supplied with feed air from respective supply lines. The plurality of temperature sensors is located in at least one of the plurality of cabin zones and is "operable to measure a plurality of individual ambient temperature values for different locations in the at least one cabin zone." The electronic control unit derives an actual ambient temperature value from the plurality of individual ambient temperature values for the at least one zone, and then controls the

temperature of feed air supplied to the at least one cabin zone based on a difference between the actual ambient temperature value and a room temperature target value.

Claims 7-11 depend from independent claim 6 and recite additional features. For example, claim 9 requires that "each of the plurality of temperature sensors are spaced from each other along a lengthwise direction of the at least one cabin zone." Furthermore, claim 10 recites that the electronic control unit derives the actual ambient temperature value for the at least one cabin zone by averaging at least a portion of the plurality of individual ambient temperature values.

B. The Cited Prior Art

The Office Action states that Fischer discloses every element of independent claim 6. Applicants disagree. Fischer is directed to a multiple zone air conditioning system in an aircraft. As shown in Fig. 2, the aircraft (1) includes a plurality of conditioned air ducts (11-16) each associated with a respective air introduction section (A1-A6) of the cabin. Air duct temperature sensors (35-40) are located in the air ducts for measuring the temperature of the feed air. The air introduction sections are operable to be configured into three air conditioning zones (2, 3, 4). A single ambient temperature sensor (18, 19, 20) is provided for each respective temperature zone. The ambient temperature sensors are positioned in the cabin such that, no matter how the air introduction sections are configured to define the three air conditioning zones, a single temperature sensor is located in each of the designated air conditioning zones and provides a temperature value corresponding to a single temperature within the zone. *See col. 3, lines 14-43.*

In contrast, independent claim 6 requires a plurality of temperature sensors located in at least one of the cabin zones for measuring a plurality of individual ambient temperature values. Fischer describes only a single temperature sensor and a single temperature

sensor selector for each cabin zone. Fischer provides no teaching of a plurality of temperature sensors in a single cabin zone. For this reason alone, Fischer cannot anticipate claim 6.

Moreover, the Office Action asserts that the entire passenger cabin (1B) of Fischer is the alleged "cabin zone," and that air duct temperature sensors (35-40) are spaced from one another lengthwise throughout the aircraft. But claim 1 now recites that the at least one cabin zone is just one of a plurality of separate cabin zones in a passenger cabin. Therefore, it is improper to consider the entire passenger cabin of Fischer to be the "at least one cabin zone" of claim 1.

Furthermore, the air duct temperature sensors in Fischer do not measure the ambient temperature in the air conditioning zones of the passenger cabin. In contrast, each of the plurality of temperature sensors in the at least one cabin zone recited in claim 6 measures an individual ambient temperature value. Therefore, the air duct temperature sensors of Fischer do not correspond to the plurality of temperature sensors recited in claim 6.

Additionally, the controller of Fischer compares the temperature sensed by the single temperature sensor in a selected zone with a temperature setting input by the temperature selector for the selected zone. In this regard, Fischer does not teach a control unit that derives an actual ambient temperature value for the cabin zone from a plurality of individual ambient temperature values measured by a plurality of temperature sensors. As such, Fischer differs from the present claims in that Fischer does not disclose each element of independent claim 6.

Clearly, claim 6 is novel over Fischer. Claim 6 is also unobvious over Fischer. More specifically, Fischer teaches away from providing a plurality of temperature sensors in a single zone. That is, Fischer teaches that a temperature setting should be input using a temperature selector, and that the signal from the temperature selector should be summed with a signal from the temperature sensor, thereby to provide a controller with a value indicative of

needed cooling or heating. However, Fischer provides no disclosure as to how a plurality of sensors would even be handled by the system. And as emphasized in the recently-released 2010 KSR Guidelines Update, it is well established that a claimed combination of prior art elements may be non-obvious where the prior art teaches away from the claimed combination." *2010 KSR Guidelines Update*, Federal Register Vol. 75, No. 169, page 53659 (Aug. 20, 2010).

Presumably, if a plurality of additional sensors were added to a particular zone, then a plurality of temperature selectors would also be used in the aircraft. In such a situation, the desired temperature set point for a selected aircraft zone would need to be input into each of a plurality of temperature selectors. This process would be tedious and repetitive. As such, a person of ordinary skill in the art would not be inclined to do this. Alternatively, a plurality of distinct temperature set points could be input using the plurality of temperature selectors. In this scenario, the controller would effectively divide the aircraft into even more zones, each controlled based on the respective temperature set point and the sensed temperature of the temperature sensor. Therefore, even in this case, Fischer would not comprise a plurality of temperature sensors in a zone and a controller that derives an ambient temperature for the zone from the plurality of sensed temperatures.

For at least these reasons, claim 6 is patentable over Fischer. Each of claims 7-11 depends from independent claim 6 and recites a unique combination of features also not disclosed or rendered obvious by Fischer. Claims 7-11 are therefore also allowable.

Additionally, dependent claim 10 requires that the electronic control unit derive the actual ambient temperature value for at least one cabin zone by averaging at least a portion of the plurality of individual ambient temperature values measured by the plurality of temperature sensors. Fischer does not disclose a control unit that averages the ambient temperature measurements from multiple temperature sensors, and is thus deficient with respect to claim 10

for this additional reason. Applicants respectfully request that the rejections of claims 6-11 be withdrawn.

III. New Claim 12 is Allowable

Claim 12 depends from independent claim 6 and further recites that the electronic control unit averages only the individual ambient temperature values that are determined to be within a threshold temperature range. Claim 12 is allowable for at least the same reasons described above with respect to independent claim 6. Furthermore, Fischer provides absolutely no teaching of a threshold temperature range for determining whether ambient temperature readings from the temperature sensors should be disregarded. For at least this additional reason, claim 12 is allowable over Fischer. Applicants respectfully request that claim 12 be allowed without delay.

IV. Conclusion

Based on the amendments to the claims and these remarks, applicants respectfully assert that all present claims are in condition for allowance, and respectfully request an allowance without further delay.

Applicants believe that no fee is due for this filing. But if the USPTO disagrees, please consider this as an authorization to charge Deposit Account 23-3000.

Respectfully submitted,

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